

REMARKS

Claims 3-5 and 7-25 remain in the case and claims 1-2 and 6 are cancelled without prejudice. Favorable reconsideration of the above-identified application in view of the foregoing amendments and following remarks is respectfully requested.

Operational Description of the S&W '473 Reference:

During start-up and idle conditions, when the alleged throttling choke valve (12) is closed or cracked open, nozzle (26) senses a negative pressure causing the diaphragm (24) to lift upward and the pivoting armature (23) to lower its valve head (20) closing the fuel supply passage (19) to the fuel metering chamber (18). The pressure differential across the primary fuel feed passage aperture (15) is minimal, and with the metering chamber isolated from a make-up fuel source, no fuel is provided from the fuel metering chamber (18) to the mixing passage. Fuel for engine starting and idling is generally supplied through aperture (28) which senses a high pressure differential, thus the fuel metering chamber (18) is bypassed or isolated therefrom.

During high engine RPM or wide-open conditions, nozzle (26) senses near atmospheric pressure, the diaphragm (24) relaxes, or moves downward thus opening the fuel supply passage (19) into the fuel metering chamber (18). The pressure differential across aperture (16) in the primary fuel feed passage (15) is greatly increased causing the majority of fuel entering the mixing passage to flow from the metering chamber (18) and through the primary fuel feed passage aperture (16).

Claim Objections:

Claims 7-19 have been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 7 is currently amended to include the limitations of base Claim 1.

Consequently, Claim 7 and dependent claims 8-19 are now in a condition for allowance.

Claim Rejections - 35 USC §102:

Claims 1-3, 20, 21, and 23-25 have been rejected under 35 USC §102(b) as being anticipated by S&W, German Patent No. 19809473. The Applicant respectfully conforms in-part by canceling claims 1 and 2 without prejudice, and further limiting Claims 20 and 25, and traverses the rejection in-part.

In regards to amended independent Claim 3 and amended independent Claim 21 of the present application, the S&W '473 reference does not have the air bypass channel (80) of Claims 3 and 21 that communicate directly with an outlet region (28) of the fuel-and-air mixing passage (16). Moreover, the air channel (30) found in Figure 2 of the S&W '473 reference communicates with the upstream region and not the downstream region of the mixing passage. This placement creates an opposite dynamic flow effect upon the primary fuel feed passage (15) when compared to the claims of present application, thus S&W '473 teaches away from Claims 3 and 21.

In regards to amended independent Claim 20, the structure of the S&W '473 reference stops the flow of fuel through the primary fuel feed passage (15) when the reference passage (25) and chamber (24) is at sub-atmospheric conditions (i.e. the alleged throttling choke valve is closed or cracked slightly open). Also see pivoting armature (23), valve head (20), and idle circuit aperture (17). As claimed in amended Claim 20, fuel flow through the primary fuel feed passage (30) is “not stopped” when the reference chamber (44) is exposed to sub-atmospheric conditions. In fact, because the present application has no idling circuit as does S&W '473, fuel flow is required through the passage (30).

In regards to independent Claim 23 and dependent Claim 24, the S&W '473 reference does not teach or suggest the secondary venturi (72) of the present application. In fact, as illustrated in Figure 2 of S&W '473, the alleged throttling choke valve rotates counter-clockwise as illustrated by arrow (14). This rotation is away from nozzle (26), thus a venturi effect is not created at the nozzle because the nozzle (26) is not properly located for the benefit of a venturi. In contrast, the throttling choke valve (12) of the present application moves from the closed position (see Figure 5) to the idle position (see Figure 6) in a clockwise direction and generally toward the reference nozzle (54) which is thus directly exposed to the increase in vacuum pressure created by the resultant secondary venturi (72). In essence, the S&W '473 reference teaches away from use of a secondary venturi during idle conditions.

Claim 25 has been further limited by specifying that the minimum flow cross sectional area of the fuel feed passage (30) is substantially larger than the minimum flow cross sectional area of the reference channel (52). This limitation is supported in the

specification on page 11, paragraph 28. Furthermore, Applicant believes that the limitation is generally in accordance with the claimed subject matter and is not of sufficient significance to require a new search.

In further regards to amended independent Claim 25, the minimum flow cross sectional area of the reference channel (25) of S&W '473 is considerably larger than the minimum flow cross sectional area of the primary fuel feed passage (15). This is because the reference channel (25) functions to shut-off fuel flow through the primary fuel feed passage (15) during engine start-up conditions. In contrast, the minimum flow cross section of reference channel (52) of the present application is substantially smaller than the minimum flow cross section of the primary fuel feed passage (30). This is necessary because fuel flow must be enhanced or increased through the feed passage during start-up conditions and not stopped as in the S&W '473 reference.

Consequently, claims 3, 20-21 and 23-25 of the present invention are not anticipated by the S&W '473 reference under USC §102(b).

Claim Rejections - 35 USC §103:

Claims 4-6 and 22 have been rejected under 35 U.S.C. §103(a) as being unpatentable over German Patent No. 19809473, to S&W, in view of U.S. Patent No. 4,931,226, to Ishii. The Applicant respectfully conforms in-part by canceling claim 6 without prejudice and traverses the rejection in-part.

In regards to dependent Claims 4-5, because base Claim 3 is patentable, dependent Claims 4-5 are non-obvious and patentable. If an independent claim is non-

obvious under 35 U.S.C. §103, then any claim depending therefrom is non-obvious, In re Fine, 837 F.2d 1071, 5USPQ2d 1596 (Fed. Cir. 1988).

In further regards to dependent Claim 5 and in regards to Claim 22, the Ishii '226 reference has no air bypass identified as (66) in the first office action, nor does the reference have fuel mixture screw valves identified as (47) in the first office action. Ishii does however have an adjustment screw (47) which flows or sees fuel, not air, and "serves to determine the maximum flow rate of fuel flowing through the main fuel passage (41) [see col. 3, lines 48-52 of Ishii '226]."

Regardless, the Applicant surmises that the screw referred to was meant to be (60), not (66). If this is the case, the bypass (56) that screw (60) serves is a fuel-and-air idle mixture bypass and thus not the air bypass (80) of Claims 5 and 22. Moreover, the bypass (56) of Ishii '226 communicates between the downstream side of the venturi region and the downstream side of the throttle valve (17). In contrast, the air bypass channel (80) of Claims 5 and 22 bypasses the throttling choke valve (12) and bypass the venturi region (22). The Ishii bypass (56) does not do either.

Because the references do not teach or suggest, individually or in combination, the air bypass channel (80) of the present application, Claims 5 and 22 are non-obvious and patentable over S&W '473 in view of Ishii '266.

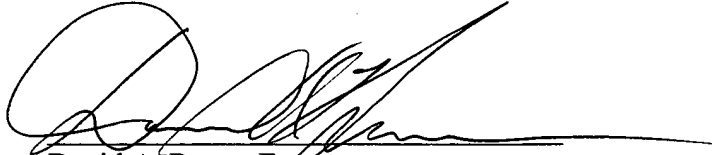
Summary:

Please reconsider and allow Claims 3-5 and 7-25 in view of the above amendments and remarks.

Applicant believes that no fee is due; however, the Commissioner is hereby authorized to charge any deficiencies associated with this communication to Deposit Account No. 50-0852.

Respectfully submitted,

REISING, ETHINGTON, BARNES,
KISSELLE, P.C.

A handwritten signature in black ink, appearing to read 'David A. Burns', with a large, stylized initial 'D' and a long horizontal flourish extending to the right.

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